IN THE CLAIMS

1-86 (canceled)

87. (currently amended) A process for coating a metallic surface that is clean ~~cleaned~~, pickled, cleaned or pretreated or the metallic surface treated by any combination of cleaning, pickling and pre-treatment, with an aqueous, also comprising, if desired, organic solvent and other components, which is substantially or entirely free from chromium (VI) compounds, for the purpose of pretreatment prior to a further coating or for treatment, wherein said aqueous composition comprises water and,

a) at least one hydrolyzable or at least partly hydrolyzed fluorine-free silane; and

b) at least one of a hydrolyzable or at least partly hydrolyzed fluorine-containing silane; and

c) at least one metal chelate; and ~~or~~

d) at least one of a monomer, oligomer, polymer or copolymer;

wherein the ratio of component d) to silanes a) and b) in the composition range from 0.1:1 to 10:1,

wherein the silanes a) and b) are water-soluble or become water-soluble by virtue of hydrolysis reactions or by chemical reactions prior to application to the metallic surface, wherein the fluorine free silane comprises at least one fluorine-free organosilane and at least one fluorine-free organofunctional silane, and wherein the fluorine-containing silane is at least one fluorine-containing organosilane; as said fluorine containing silane,

said process comprising contacting the clean, pickled, cleaned pretreated metallic surface with the aqueous composition to form a film on the metallic surface and subsequently drying and, optionally curing the film,

wherein the dried and optionally cured, corrosion resistant film is anticorrosive has a thickness in the range from 0.001 to 10 μm, wherein the hydrolyzed fluorine-free silane is selected from the group consisting of functional trialkoxysilane, aminosilane, ureidosilane, or a vinylsilane with bis-trialkoxysilane.

88. (previously presented) The process according to claim 87, wherein the fluorine-free silane selected from the group consisting of at least one acyloxysilane, alkoxysilane, silane having at least one amino group such as an aminoalkylsilane, silane having at least one succinic group and/or succinic anhydride group, bis-silyl-silane, silane having at least one epoxy group such as a glycidyloxysilane, (meth)acrylatosilane, multi-silyl-silane, ureidosilane, vinylsilane a silanol, a siloxane or a siloxane that corresponds chemically.

89. (previously presented) The process according to claim 87, wherein said at least one fluorine-free silane is selected from the group consisting of

glycidyloxyalkyltrialkoxysilane;

methacryloyloxyalkyltrialkoxysilane;

(trialkoxysilyl)alkylsuccinoylsilane;

aminoalkylaminoalkylalkyldialkoxysilane;

(epoxycycloalkyl)alkyltrialkoxysilane;

bis(trialkoxysilylalkyl)amine;

bis(trialkoxysilyl)ethane;

(epoxyalkyl)trialkoxysilane;

aminoalkyltrialkoxysilane;

ureidoalkyltrialkoxysilane;

N-(trialkoxysilylalkyl)alkylenediamine;

N-(aminoalkyl)aminoalkyltrialkoxysilane;

N-(trialkoxysilylalkyl)dialkylenetriamine;

poly(aminoalkyl)alkyldialkoxysilane;

tris(trialkoxysilyl)alkyl) isocyanurate;

ureidoalkyltrialkoxysilane; and

acetoxysilane; or is based on any of the foregoing.

90. (previously presented) The process according to claim 87, wherein said at least one silane is selected from the group consisting of

3-glycidyloxypropyltriethoxysilane;

3-glycidyloxypropyltrimethoxysilane;

3-methacryloyloxypropyltriethoxysilane;

3-methacryloyloxypropyltrimethoxysilane;

3-(triethoxysilyl)propylsuccinoylsilane;

aminoethylaminopropylmethyldiethoxysilane;

aminoethylaminopropylmethyldimethoxysilane;

beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane;

beta-(3,4-epoxycyclohexyl)ethyltrimethoxysilane;

beta-(3,4-epoxycyclohexyl)methyltriethoxysilane;

beta-(3,4-epoxycyclohexyl)methyltrimethoxysilane;

gamma-(3,4-epoxycyclohexyl)propyltriethoxysilane;

gamma-(3,4-epoxycyclohexyl)propyltrimethoxysilane;

bis(triethoxysilylpropyl)amine;

bis(trimethoxysilylpropyl)amine;

(3,4-epoxybutyl)triethoxysilane;

(3,4-epoxybutyl)trimethoxysilane;

gamma-aminopropyltriethoxysilane;

gamma-aminopropyltrimethoxysilane;

gamma-ureidopropyltrialkoxysilane;

N-(3-(trimethoxysilyl)propyl)ethylenediamine;

N-beta-(aminoethyl)-gamma-aminopropyltriethoxysilane;

N-beta-(aminoethyl)-gamma-aminopropyltrimethoxysilane;

N-(gamma-trimethoxysilylpropyl)diethylenetriamine;

N-(gamma-trimethoxysilylpropyl)diethylenetriamine;

N-(gamma-trimethoxysilylpropyl)dimethylenetriamine;

N-(gamma-trimethoxysilylpropyl)dimethylenetriamine;

poly(aminoalkyl)ethyldialkoxysilane;

poly(aminoalkyl)methyldialkoxysilane;

tris(3-(triethoxysily1)propy1) isocyanurate;

tris(3-(trimethoxysi1y1)propy1) isocyanurate and vinyltriacetoxysilane, or is based on any of the foregoing.

91. (previously presented) The process according to claim 87, wherein in the aqueous composition selected from the fluorine-containing silanes there is in each case at least one acyloxysilane, alkoxysilane, a silane having at least one amino group such as an aminoalkylsilane, silane having at least one succinic acid group or succinic anhydride group, bis-silyl-silane, silane having at least one epoxy group such as a glycidyloxysilane, (meth)acrylato-silane, multi-silyl-silane, ureidosilane, vinylsilane, a silanol a siloxane or a polysiloxane whose

composition corresponds chemically thereto, wherein the group contains at least one fluorine atom.

92. (previously presented) The process according to claim 87, wherein the aqueous composition comprises at least one fluoroalkoxyalkylsilane, at least one mono-, di- or trifunctional fluorosilane, at least one mono-, bis- or tris-fluorosilane, at least one fluorosilane based on ethoxysilane and/or based on methoxysilane and/or at least one fluorosilane having at least one functional group such as, for example, an amino group, in particular in the form of a cocondensate, such as fluoroalkyldialkoxysilane, a fluoroaminoalkylpropyltrialkoxysilane, a fluoromethanesulfonate, a fluoropropylalkyldialkoxysilane, a triphenylfluorosilane, a trialkoxyfluorosilane, a trialkylfluorosilane or a tridecafluorooctyltrialkoxysilane.

93. (previously presented) The process according to claim 87, wherein the silane contains at least two amino groups and also at least one ethyl group and/or at least one methyl group.

94. (previously presented) The process according to claim 87, wherein the aqueous composition further comprises at least one component e) selected from the group consisting of:

e_1) at least one inorganic compound in particle form, having an average particle diameter, measured on a scanning electron microscope, in the range from 0.005 to 0.3 μm in diameter;

e_2) at least one lubricant;

e_3) at least one organic corrosion inhibitor;

e_4) at least one anti-corrosion pigment;

e_5) at least one agent for neutralizing and/or sterically stabilizing the synthetic resins;

e_6) at least one organic solvent;

e_7) at least one siloxane;

e_8) at least one long-chain alcohol; and

e_9) at least one surfactant.

95. (previously presented) The process according to claim 87, wherein the organic film former is a synthetic resin mixture comprising at least one polymer or copolymer selected from the group consisting of acrylate, epoxide, ethylene, urea-formaldehyde, phenol, polyester, polyurethane, styrene, styrene-butadiene, vinyl or is based on one of the foregoing.

96. (previously presented) The process according to claim 87, wherein the organic film former further comprises as synthetic resin at least one organic polymer, copolymer and/or mixture thereof selected from the group consisting of polyethyleneimine, polyvinyl alcohol, polyvinylphenol, polyvinylpyrrolidone or polyaspartic acid or is based on one of the foregoing.

97. (previously presented) The process according to claim 87, wherein acid groups of the synthetic resin are stabilized with ammonia, an amine an alkali metal compound.

98. (previously presented) The process according to claim 87, wherein the aqueous composition contains from 0.1 to 980 g/1 of the organic film former.

99. (previously presented) The process according to claim 87, wherein the amount of at least one fluorine-free silane in the aqueous composition, including reaction products formed therefrom, is from 0.05 to 300 g/l.

100. (previously presented) The process according to claim 87, wherein the amount of at least one fluorine-containing silane in the aqueous composition, including the reaction products formed therefrom is from 0.01 to 150 g/l.

101. (previously presented) The process according to claim 87, wherein the at least one metal chelate is selected from the group consisting of chelate complexes based on acetylacetonates, acetoacetic esters, acetonates, alkylenediamines, amines, lactates, carboxylic acids, citrates or glycols, the amount of at least one chelate in the aqueous composition, including any reaction products formed therefrom, being preferably from 0.1 to 80 g/l.

102. (previously presented) The process according to claim 87, wherein the inorganic compound is in particle form as a finely divided powder, a dispersion, a suspension, a colloidal dispersion or amorphous particles.

103. (previously presented) The process according to claim 87, wherein as inorganic compound in particle form particles are added based on at least one of aluminum, of barium, of cerium, of calcium, of lanthanum, of silicon, of titanium, of yttrium, of zinc or of zirconium.

104. (previously presented) The process according to claim 87, wherein as lubricant at least one wax is used selected from the group consisting of paraffins, polyethylenes and polypropylenes, in particular an oxidized wax, the amount of waxes in the aqueous composition being preferably in the range from 0.01 to 5% by weight.

105. (previously presented) The process according to claim 87, wherein the coating is partly produced by drying and filming, or is cured by at least one of actinic radiation, cationic polymerization or thermal crosslinking.

106. (previously presented) The process according to claim 87, wherein the aqueous composition comprises at least one additive selected from the group consisting of a biocide, a defoamer or a wetting agent.

107. (previously presented) The process according to claim 87, wherein the coated metallic surface is dried at a temperature in the range from 20 to 400°C forced-air temperature.

108. (previously presented) The process according to claim 87, wherein the aqueous composition is applied by rolling, flow coating, knife coating, spraying, squirting, brushing or dipping and if desired by subsequent squeezing off with a roller.

109. (previously presented) The process according to claim 87, wherein in each case at least one coating of printing ink, film, paint, paint-like material, powder coating material, adhesive and/or adhesive backing is applied to the dry and also, where appropriate, cured film.

110. (previously presented) The process according to claim 87, wherein the coated metal parts, strips or strip sections are formed, painted, coated with polymers such as PVC, printed, bonded, hot-soldered, welded or joined with one another or with other elements by clinching or other joining techniques.

111. (currently amended) An aqueous composition for pretreating a metallic surface prior to a further coating or for treating the said surface comprising water and at least one of

a) a hydrolyzable or at least partly hydrolyzed fluorine-free silane;

b) hydrolyzable or at least partly hydrolyzed fluorine-containing silane;

c) metal chelate; and ~~or~~

d) at least one of a monomer, oligomer, polymer or copolymer;

wherein the ratio of component d) to silanes (a) and b) in the composition is in the range from 0.1:1 to 10:1;

wherein the proportion of a) to b) in each case including the reaction products formed therefrom being preferably in the range from 1:0.01 to 1:4, and wherein silanes a) and b) are water-soluble or in particular water-soluble due to hydrolysis reactions or chemical reactions and wherein the fluorine-free silane comprises at least one fluorine-free organosilane and at least one fluorine-free organofunctional silane, and wherein said

fluorine-containing silane comprises at least one functional trialkoxysilane, of at least one aminosilane, of at least one ureidosilane or of at least one vinylsilane, and at least one bis-trilkoxysilane.

112. (previously presented) A metallic surface coated by the process as claimed in claim 87, wherein said metallic surface on a substrate is selected from the group consisting of a wire, strip, sheet or part for a wire winding, a wire mesh, a steel strip, a metal sheet, a panel, a shield, a vehicle body or part of a vehicle body, a part of a vehicle, trailer, mobile home or missile, a cover, a casing, a lamp, a light, a traffic light element, a furniture item or furniture element, an element of a household appliance, a frame, a profile, a molding of complex geometry, a guideboard element, radiator element or fencing element, a fender, a pipe, a profile, a window frame, door frame or cycle frame or a small part.

113. (previously presented) The process of claim 87, wherein the composition is applied as an after rinse solution which is applied to a preceding coating.

114. (previously presented) The process of claim 113, wherein the preceding coating is a conversion coating, or applied for blank corrosion protection.

115. (previously presented)The process according to claim 96, wherein said film former comprises phosphorous containing vinyl compound.

116. (previously presented)The process of claim 97, wherein said amine is selected from the group consisting of morpholine, dimethylethanolamine, diethylethanolamine, and triethylanolamine.